

## First Hit

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Apr 10, 1986

DERWENT-ACC-NO: 1986-133954

DERWENT-WEEK: 198621

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**TITLE:** Surface hardening of titanium - comprises heating titanium in nitrogen and hydrogen gases, used for watch cases and glass frames

**PATENT-ASSIGNEE:**

ASSIGNEE	CODE
CITIZEN WATCH CO LTD	CITL

**PRIORITY-DATA:** 1984JP-0193480 (September 14, 1984)



**PATENT-FAMILY:**

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> <u>JP 61069956 A</u>	<u>April 10, 1986</u>		003	

**APPLICATION-DATA:**

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 61069956A	September 14, 1984	1984JP-0193480	

**INT-CL (IPC):** C23C 8/24**ABSTRACTED-PUB-NO:** JP 61069956A**BASIC-ABSTRACT:**

The method involves heating Ti to 800-880 deg.C in approx. 1 atm. N2 gas atmos. contg. 5-500 ppm O2, and 10-5000 ppm H2 gas. The treatment is done by heating Ti to 800-880 deg.C in approx. 1 atm. N2 gas atmos. contg. 50-5000 ppm steam.

**USE/ADVANTAGE** - The hardening treatment is used for watch cases, glass frames, and other armouring parts. More deeper hardened layer, e.g. 100-150 microns in thickness compared to approx. 50 microns as in conventional method are obtd. so it is effective to apply Ti armouring parts that are used after mirror-polishing.

**CHOSEN-DRAWING:** Dwg.0/2

**TITLE-TERMS:** SURFACE HARDEN TITANIUM COMPRIZE HEAT TITANIUM NITROGEN HYDROGEN GAS WATCH CASE GLASS FRAME

**DERWENT-CLASS:** M14**CPI-CODES:** M13-D03A;